

MECOSTAT[®]-3

Antistatic Coating Agent for Plastics

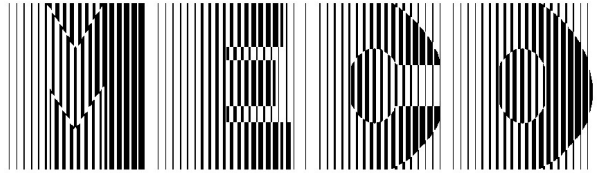
Concentrate

Food Packaging and Technical Applications

MECOSTAT[®]-3/336

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General

MECOSTAT-3 surface antistatic agents are highly effective liquid coating materials for the antistatic finishing of plastic surfaces as well as for improving slip properties. The coating's resistance to temperature guarantees that subsequent thermoforming can be performed without suffering any damage.

Furthermore, the antistatic finishing of the material remains virtually unaffected by the stretching of the material during the thermoforming process.

MECOSTAT-3/336 is a highly concentrated antistatic agent, it has to be diluted with Isopropylalcohol or demineralised water

Ratio : 1 part of **MECOSTAT-3/336**, 10 - 30 parts of isopropyl alcohol or demineralised water, depending on the application, typical ratio for film coating : 1:10, typical ratio for monofilaments and multifilaments 1:20.

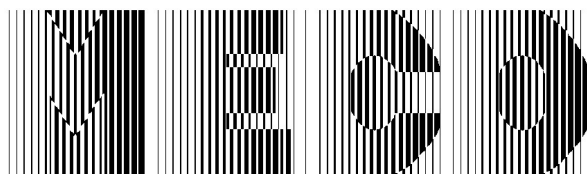
Areas of Application

Antistatic finishing of

- films for the food industry
- technical sheets and plates
- moulded, injection moulded and hollow bodied parts
- fabrics, mono- and multifilaments
- EPS, foam materials

Typical Coating Properties

- long-term antistatic finishing for several years with reduction of the surface resistance as far as $1 \cdot 10^8 \Omega$ at standard climatic conditions
- strong adhesion of the antistatic agent to the plastic surface resulting in high stability against physical effects such as friction etc.
- the coating is temperature resistant resulting in unproblematic thermoforming without impairing the antistatic finish
- excellent wetting properties on plastic surfaces resulting in excellent antistatic finishing even under difficult thermoforming conditions
- the slip properties of the plastic surfaces are improved considerably by the coating, therefore improves the stackability of thermoformed parts
- **MECOSTAT-3/336** replaces the additives used until now to a large extent
- no migration into the liquid filled, no accumulation during recycling
- striation-free highly transparent coating
- **MECOSTAT-3/336** is high yielding and therefore keeps down costs of antistatic finishing
- usable in the packing industry for foodstuffs according to EC-Directives
- unproblematic recycling of coated plastics



Processing Directions

- the following processes are suitable for coating: immersion, felting, roller application, application by flexographic or gravure printing, spraying spray, rotor spraying coating (the appropriate processes are dependent on the particular purpose of application)
- the coated surface must be completely dry before further processing or winding the film (if required, drying with warm air)
- coating quantity: depending on the application purpose 1.0 to 3.5 g per sqm (wet coating amount, of the diluted solution)
 - **MECOSTAT-3/336** is a highly concentrated antistatic agent, it has to be diluted with isopropyl alcohol or demineralised water (1 part of **MECOSTAT-3/336**, 10-30 parts of isopropyl alcohol or demineralised water)
- machine parts which come into contact with **MECOSTAT-3/336** should be made of corrosion-proof materials (not of copper, aluminium or alloys of them)
- a combination of **MECOSTAT-3/336** with antistatic or anti-blocking agents is not recommended because of possible reactions
- depending on the particular application a corona pretreatment is recommended (e.g. on polyolefines and polystyrene)
- for detailed processing and safety information, please refer to the appropriate safety data sheets
- due to the large number of applications and processing procedures we would like to point out that corresponding tests have to be performed by the customer to make sure that there will be no incompatibility with the raw materials, additives and the processing procedures

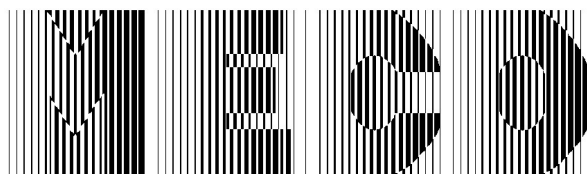
Safety

MECOSTAT-3/336 as well as the raw materials contained in it comply with the appropriate EC-Directives on the antistatic finishing of plastics in food packaging.
MECOSTAT-3/336 is environment-friendly and easily biodegradable.

Service

We offer comprehensive technical support with regard to not only the choice of the right type of material for application but also to the coating systems.

Our application technology department is at your disposal for the conception of optimal application systems, as well as for preparing upgrade suggestions for installations already in use.



Calculation of the consumption rate (ready solution)

consumption rate of MECOSTAT-3-solution per kg plastic

$$\text{consumption solution per kg plastic [g]} = \frac{\text{coating rate/m}^2 \text{ [g]} \times 1000}{\text{sheet thickness}[\mu\text{m}] \times \text{spec. weight of plastic [g/cm}^3\text{]}}$$

coated sheet per kg MECOSTAT-3-solution

$$\text{coated sheet per kg solution [kg]} = \frac{\text{foil thickness}[\mu\text{m}] \times \text{spec. weight of plastic [g/cm}^3\text{]}}{\text{coating rate/m}^2 \text{ [g]}}$$

Typical value of spec. weights of different plastics

The exact specific weight depends on both, the plastic formula used and on the additives used. Therefore, the given values are only approximated values.

APET	: 1.35 g/cm ³
PVC	: 1.42 g/cm ³
PP	: 0.93 g/cm ³
PETG	: 1.17 g/cm ³
LDPE	: 0.95 g/cm ³
HDPE	: 0.92 g/cm ³
PS	: 1.10 g/cm ³
ABS	: 1.12 g/cm ³
PC	: 1.20 g/cm ³
PTFE	: 2.16 g/cm ³
PMMA	: 1.18 g/cm ³
PUR	: 1.25 g/cm ³